Incomplete and complete fusion processes in some heavy ion induced reactions

Ashok K. Chaubey 1 , Avinash Agarwal 2 , Isar A. Rizvi 1 , Anjana Maheshwari 1 , Tauseef Ahmad 1

Some Heavy ion induced reactions were studied using heavy ion beams obtined from Pelletron of Nuclear Science Centre , New Delhi, India. Oxygen and Carbon ions were accelerated at the energy around 80 Mev. Several reactions induced by these heavy ions were studied in various targets. Stacked foil activation technique was used in this study. The measured cross sections were compared with calculated cross-sections using different computer codes. The large difference in the measured and calculated cross sections is due to incomplete fusion of incident projectile. Experiments were also performed for confirmation of ICF. For this the measurements of forward recoil range were done. The study of recoil range gave a direct signature of Incoplete fusion of heavy ions. The result confirms breakup of incident heavy ions.

Email: ashokchaubey@yahoo.com

¹ Department of Physics, A.M.U. Aligarh, India

² Bareilly college, Bareilly, U.P., India